

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning on page 11, line 8 in the specification as follows:

The welding system also include a feedback unit 17 which is connected between the workpiece ~~15~~ 16 and the power source 12. The feedback unit 17 supplies voltage and current feedback to the control unit 11. The system also includes a signal reference unit 18 and a feedback isolation unit 19 to provide integrity to the welding system. The control unit 11 is able to supply through the signal reference unit 18 reference signals to both the power source 12 and the wire feed unit 15 so as to control the functions of those units as will be described in more detail below.

Please amend the paragraph beginning on page 12, line 25 in the specification as follows:

In operation, the DSP is designed to sample conditions every 40 microseconds. During sampling, electronic circuitry interrupts the DSP programme. The DSP then registers the feedback voltage (and current if required), conducts processing steps and issues an update current reference signal to the power source and an updated wire feed reference signal. The current reference signal controls the current level outputted by the power source which in turn determines the instantaneous melt rate of the electrode 14 at its contact tip ~~23~~ 13. The control unit 11 also provides a wire feed reference signal to the speed drive 22 of the wire feed unit 15 which in turn controls the AC servomotor to control the rate of advancement of the electrode towards the workpiece 16.